

**Comments from Chesapeake Bay Program Agriculture Workgroup Members in
Response to EPA’s Request for Identification of Fatal Flaws in EPA’s Draft Responses to
Pennsylvania’s Documentation on Manure Management Plans’ Use of Book Values**

Received March 9-10, 2017

Delaware Department of Agriculture (Chris Brosch)

After brief review, commensurate with the review period mandated in your email, I am finding insufficient evidence that conservatism is met by PA’s use of 200ppm Mehlich 3 soil test phosphorus assumptions to replace a soil test. Where real world values can far exceed 200, as much as 12x higher in my experience, conditions exist where NM plans using soil tests result in other states requiring zero or less than annual crop removal P applications and PA does not. This is insufficient protection to achieve core P credit where as NM plans on excessively high soil test P (>450/500 ppm) should, and in DE, MD and VA do aim, to reduce soil test P levels over time. This is a “hold the line” approach rather than a conservative approach that after many years would improve the situation in a field.

Full disclosure, MDA data suggests, this only matters on <2% of land. Some mathematical “fix” should be considered and applied rather than re-opening Pandora’s NM box.

Maryland Department of Agriculture (Alisha Mulkey)

Thank you for the opportunity to review and comment on the attached document. MDA appreciates the thoroughness and details provided by PA to further this conversation. As such we offer the following comments:

1. PA's lab analyses and documentation does support the fact that book values for manure analysis and soil P are largely protective of water quality, i.e. requiring lesser application rates than site-specific data may allow. However, while MMPs may be written to include these more restrictive rate applications, an operator's compliance with an MMP is critical to verification of the nutrient management BMP. Future crediting of MMP acres for core-NM should include a documented method for assessing acres in compliance with MMPs.
2. MDA does not believe book values for manure application or soil P are sufficient for supplemental NM credits.
3. MDA supports DDA comments that recommend an upper threshold for soil P values whereby no additional P application is warranted.
4. Related to #3, MDA does not find sufficient detail on PA's P Site Index (PSI) requirements (Attachment C, page 16). It appears a PSI assessment is voluntary for those acres subject to MMPs. Sufficient protection of water quality should include an assessment of P source and transport as defined by the PSI when soil P levels exceed 200 ppm.

Pennsylvania State Conservation Commission/Pennsylvania Department of Environmental Protection
(Frank Schneider, Jill Whitcomb)

To get it on record, Pa has the following comments:

We appreciate your swift and thorough review of Pennsylvania's documentation of Manure Management Plans use of book values and default soil test values in order to obtain NM credit in the CBWM. We agree with your findings and recommendations. We do not find any "fatal flaws" with the documentation, the guidance, the PA-specific agreement, or EPA's findings.

It would behoove us to hear what the other states'/partners' comments are so that we are prepared for the imminent future discussions on this topic.

Virginia Department of Conservation and Recreation (Tim Sexton, Bobby Long)

I also thank you very much for the opportunity to review and comment on this fatal flaw.

While I have no issue with this concept and theory of manure management plans, and Pa or any other state getting credit for same or a similar program at some point in time I also have some issues.

If you take a look at the attached that Bobby Long put together, and assume that each farmer is in the top 20 percent as a producer as you would expect for the best large regulated farms in Pa. then for the crops selected, and the crops removal rates there is still over application of P being allowed. Second, these are plans that may or may not exist even though they are supposed to have one, third, you assume the farmer does not have a manure sample so he is allowed to use book values, which in my professional opinion takes him out of the top 20 percent of managers and yields.

Next you assume that the farmer is always going to have current soils test, and assume that he is going to spread manure evenly across acres on his farm, when even on "Permitted" operations it have been a challenge to convince operators to hit the fields farther away from the barn and spread the manure where it is needed instead of where it is easy to dispose of.

In Virginia we have 1,100 Poultry operations, 890 of which are permitted. 83% of which have "Transfer" plans and no acres associated with them. The regulatory authority then is very happy that there is no acreage associated with the operation and it does not matter at all whether or not the fields around the operation are black or not as long as the operator can say he has a transfer plan.

We also have several hundred horse operations in Virginia that charge big bucks to board and train but know nothing about manure management or care anything about manure management. But would just love to say they have a transfer plan.

Considering Pa wishes to just use ASABE numbers for Waste analysis, I wonder how many manure samples PSU has each year of each type to support the book values. While they may have enough to support the swine, it may be doubtful that they can support the book values for other animals.

I must concur with my partner from Md here that without considerable additional documentation and verification of minimal implementation, Pa deserves much in the way of credit for manure management plans, particularly for Phosphorus.

Bobby and I will be more than happy to discuss in much more detail if you wish.

I thank you for this opportunity [Tim Sexton]

A	B	C	D	E	F	G	H
Corn Grain	P removal**	P removal**	Max rate	p per ton	Max p applied	F>B?	F>C?
	131 bushel	160 bushel	tons	lbs P2O5	lbs P2O5		
Manure Type							
Solid Dairy	50	61	15	4	60	yes	by 1 lb/acre
Liquid Dairy*	50	61	5000	13	65	yes	yes
Beef cow calf	50	61	10	7	70	yes	yes
Beef steer	50	61	15	5	75	yes	yes
Horse	50	61	15	5	75	yes	yes
*per 100 gallons							
Corn Silage	P removal**	P removal**	Max rate				
	22 tons	25 tons					
Manure Type							
Solid Dairy	92	105	30	4	120	yes	yes
Liquid Dairy*	92	105	10000	13	130	yes	yes
Beef cow calf	92	105	20	7	140	yes	yes
Beef steer	92	105	25	5	125	yes	yes
Horse	92	105	25	5	125	yes	yes
*1000 gallons not tons							
**based on values in Virginia Nutrient Management Standards and Criteria do to time constraints. 0.38lbs/bu and 4.2lbs/ton of yield							
***no tables found in manure management plan guide for sheep, lamb, goats or turkeys							

I would like to follow up on Tim’s comments. When taking another look at the data you sent yesterday, we noted the Pa lab data utilized to compare to book values were for samples collected over 19 years (1998 – 2016). That amounts to as few as 1.4 samples per year for a given animal type up to as many as 97 samples per year for a given animal type, on average. For instance, there were 242 liquid dairy samples (average of 13 per year) and 569 beef samples (average of 30 per year divided into 2 production types for 15 per year).

On numerous occasions, we have discussed how many samples are needed for reporting purposes. Thirty is a number that has often been considered a minimum population size. When discussing sample data for reports such as the PLS report, 30 per year was what was needed to include any given year’s data in the report and in subsequent data submittals. While the PA data in this document is not going into the model, it is being used to determine the efficacy of the book values Pa is using to justify giving credit to manure management plans in the model. These values should be held to the same scrutiny as values actually used in the model if they are being used to justify an alternative to actual values. Where not enough data is available from Pa’s lab to do so, we suggest incorporation of additional data from states within the partnership be used to validate the applicability of the book values.

Thank you for the opportunity to comment. [Bobby Long]